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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/491,429	01/26/2000	John F. Heanue	A-68918/ENB	8521

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/491,429

Applicant(s)

HEANUE ET AL.

Examiner

Armando Rodriguez

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed December 19, 2003 have been fully considered but they are not persuasive.

Applicant's arguments on pages 6 and 7 pertaining to the term "micro", which implies small in size. The modification of an old system in the present case a tunable laser and making it smaller in size, where both systems provide the same end result which is to tune a laser beam is considered a mere modification and recognized to be within the level of ordinary skill, therefore applicant's attention is directed to MPEP 2144.04 (IV). In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. Furthermore, on page 8 applicant compares the McIntyre (PN 5,319,257) microactuator to the claimed microactuator in terms of dimension and concludes that the McIntyre microactuator is greater in size than the claimed microactuator, however both the McIntyre microactuator and the claimed microactuator are considered to be microactuators, thereby applicant has shown that there is no particular dimension for a microactuator, but only a relative term which implies small in size.

Regarding applicant's arguments pertaining to the combination of the Wu et al reference (PN 6,493,365) with the McIntyre reference on page 7, the Wu et al discloses a tunable laser having a stepper motor and the McIntyre reference discloses a microactuator and suggest replacing a stepper motor with the microactuator because it would eliminate undesirable transients generated by the stepper motor, as compared in figure 7 and described in column 5 lines 62-68 and column 6 lines 1-5.

Regarding applicant's arguments pertaining to the Jerman et al reference does not suggest using an electrostatic microactuator. Wu et al uses a stepper motor for tuning the laser, McIntyre et al suggest the replacement of the stepper motor with a microactuator and Jerman et al discloses a particular type of microactuator therefore it would have been an obvious modification for a person having ordinary skill in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10,12 and 16,18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al (PN 6,493,365) in view of McIntyre (PN 5,319,257).

Regarding claims 1,3,6-9,12 and 16,18-20,

Wu et al illustrates in figure 3 a tunable laser in a Littman-Metcalf configuration, whose structural arrangement and operation is well in the art. The tunable laser having a grating (340), a mirror (350), a laser (330) and an actuator (370), where the actuator

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provides the tuning by angular displacement of the grating, as described in column 6 lines 36-65. In column 7 lines 8-29, describes the actuator as a rotary stepper motor or anyone of a linear stepper motors, piezoelectric stacks, bimetallic element, AC/DC motors, etc.

Wu et al is silent as to the use of a microactuator, which implies small in size.

McIntyre discloses a microactuator used for positioning in nanometer increments, as described in the abstract and column 1. Column 5 lines 61-68 describes the undesirable transients generated by the stepper motor and in column 6 lines 1-5 suggest replacing a stepper motor with an microactuator due to the smooth and continuous motion, as illustrated in figure 7.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the stepper motor of Wu et al with the microactuator of McIntyre because it would eliminate the undesirable transients generated by the stepper motor. Furthermore, any person having ordinary skill in the art will have the capability of providing the microactuator with the necessary modifications for it to operate with the tunable laser.

Regarding claim 2,5

The first, second distances and the pivot point are an obvious design of the Littman-Metcalf configuration, as it is well known in the laser art.

Regarding claim 4,10,20,

The replacement of the stepper motor with microactuator will provide sufficient angular movement for selecting a wavelength within the nanometer range, since the microactuator operates in the nanometer range.

Claims 11,13-15,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over, Wu et al (PN 6,493,365) in view of McIntyre (PN 5,319,257), as applied to claims 1 and 16 above and further in view of Jerman et al.

Wu et al illustrates in figure 3 a tunable laser in a Littman-Metcalf configuration, whose structural arrangement and operation is well in the art. The tunable laser having a grating (340), a mirror (350), a laser (330) and an actuator (370), where the actuator provides the tuning by angular displacement of the grating, as described in column 6 lines 36-65. In column 7 lines 8-29, describes the actuator as a rotary stepper motor or anyone of a linear stepper motors, piezoelectric stacks, bimetallic element, AC/DC motors, etc.

Wu et al is silent as to the use of a microactuator, which implies small in size.

McIntyre discloses a microactuator used for positioning in nanometer increments, as described in the abstract and column 1. Column 5 lines 61-68 describes the undesirable transients generated by the stepper motor and in column 6 lines 1-5 suggest replacing a stepper motor with an microactuator due to the smooth and continuous motion, as illustrated in figure 7.

McIntyre is does not disclose an electrostatic microactuator.

German et al in the abstract discloses an electrostatic micro actuator having a substrate and a rotary comb, where in column 7 an exemplary operation of the actuator is disclosed as providing movement for a mirror and deflecting a laser beam.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute the micro actuator of McIntyre with the micro actuator of German et al because both actuator will provide movement to a mirror for deflecting a laser beam and will eliminate the undesirable transients generated by the stepper motor.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is 571-272-1952. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Armando Rodriguez
Examiner
Art Unit 2828


Paul Ip
Supervisor
Art Unit 2828

AR/PI